Recruitment, engagement and feedback in empirical software engineering studies in industrial contexts

By: Salleh, N (Salleh, Norsaremah)[1]; Hoda, R (Hoda, Rashina)[2]; Su, MT (Su, Moon Ting)[3]; Kanij, T (Kanij, Tanjila)[4]; Grundy, J (Grundy, John)[5]

View ResearcherID and ORCID

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Abstract

Context Research carried out in industrial contexts are recognized as important to the advancement of software engineering knowledge and practice. However, several challenges present themselves in the three key phases of research carried out in industrial contexts, recruitment, engagement and feedback.

Objective: The aim of this paper is to report the challenges related to each of the three phases of research carried out in industrial contexts, and the associated solutions we have found useful from our combined body of industrial empirical software engineering research studies spanning four case studies, five grounded theory studies, seven survey studies and two quasi-experimental studies involving a total of over 400 industrial participants in the past decade.

Method: We designed an instrument to gather details of our studies carried out in industrial contexts and performed thematic analysis to synthesise and draw out the most prominent challenges faced.

Results: We present a set of recommendations around study design, conduct and reporting to try and mitigate some of these challenges as they apply specifically to industrial empirical research.

Conclusion: These recommendations can guide researchers, novice and experienced, working in close collaboration with industry stakeholders to make the most of their industrial software engineering research.

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Author Information

Reprint Address: Salleh, N (reprint author)

[+] Int Islamic Univ Malaysia, Dept Comp Sci, Kuala Lumpur, Malaysia.

Addresses:

[+] [1] Int Islamic Univ Malaysia, Dept Comp Sci, Kuala Lumpur, Malaysia

[+] [2] Univ Auckland, Elect & Comp Engn, SEPTA Res, Auckland, New Zealand

[+] [3] Univ Malaya, Fac Comp Sci & Informat Technol, Kuala Lumpur, Malaysia

[+] [4] Swinburne Univ Technol, Dept Comp Sci & Software Engn, Melbourne, Vic, Australia

[+] [5] Deakin Univ, Sch Informat Technol, Geelong, Vic, Australia

E-mail Addresses: norsaremah@iium.edu.my

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